STATE OF ALABAMA
SURFACE MINING COMMISSION

Permit Number:P- 3912 -40-15-S

License Number:L- 779

PERMIT TO ENGAGE IN SURFACE COAL MINING OPERATIONS

Pursuant to **The Alabama Surface Mining Control and Reclamation Act of 1981**, as amended, **ALA. Code** Section 9-16-70 et. seq. (1975) a permit to engage in Surface Coal Mining Operations in the State of Alabama is hereby granted to:

MIDSOUTH ENERGY GROUP LLC
760 NORTH PINEHILL ROAD
BIRMINGHAM AL 35217
(FOUR OAKS MINE NO. 2)

Such operations are restricted to 106* acres as defined on the permit map and located in: (See Condition #3)
SW 1/4 of NW 1/4, SE 1/4 of NW 1/4, NE 1/4 of SW 1/4, NW 1/4 of SW 1/4, SW 1/4 of SW 1/4, SE 1/4 of SW 1/4 of Section 4, SE 1/4 of SE 1/4, NE 1/4 of SE 1/4 of Section 5, NE 1/4 of NE 1/4, SE 1/4 of NE 1/4 of Section 8, NE 1/4 of NW 1/4, NW 1/4 of NW 1/4, SW 1/4 of NW 1/4 of Section 9, all in Township 12 South, Range 14 West, Lamar County, Alabama

This permit is subject to suspension or revocation upon violation of any of the following conditions:

1. The permittee shall conduct Surface Coal Mining and Reclamation Operations in accordance with the plans, provisions and schedules in the permit application.

2. The permittee shall conduct operations in a manner to prevent damage or harm to the environment and public health and safety and shall notify ASMC and the public in accordance with ASMC Rule 880-X-8K-.16 of any condition which threatens the environment or public health and safety.

3. Surface coal mining operations are restricted to those areas for which sufficient bond has been posted with ASMC. On the date of issuance of this permit, bond was posted only for increment #5 consisting of 14 acres as defined on the permit map.

4. No mining disturbance is to occur on any part of the permit on which legal "right of entry" has not been obtained. When such rights are "pending" the applicant shall submit acceptable evidence, to the Director, that such rights have been obtained according to ASMC Regulation 880-X-8D-.07.

5. No disturbance is to occur on any properties on which land use comments from legal owners of record are "pending" prior to the applicant providing acceptable comments.

6. No disturbance is to occur in the 300' setback area to any occupied dwelling prior to the applicant providing acceptable evidence to ASMC of its having secured a waiver of each subject area signed by the owner of the dwelling.

7. No mining disturbance shall occur within the l00' setback of any public road or the relocation of any public road prior to the applicant providing acceptable evidence, to the Director, of its having secured approval for a waiver from the appropriate jurisdictional authority and specific written waiver from ASMC.

8. The permittee shall notify the ASMC and seek consultation with the US Fish and Wildlife Service if:

   a. The permit is modified in any way that causes an effect on species or Critical Habitat listed under the Endangered Species Act of 1973.
   b. New information reveals the operation may affect Federally protected species or designated Critical Habitat in a manner or extent not previously considered or
   c. A new species is listed or Critical Habitat is designated under the Endangered Species Act that may be affected by the operation.

9. The permittee shall contact the ASMC and consult with the Alabama Historic Preservation Officer if the permit is modified or if previously unknown archaeological or historic resources or human remains are discovered on the permit area. Upon discovery of previously unknown artifacts or archaeological features the permittee shall cease operations until the Alabama Historic Preservation Officer approves resumption of operations.

10. No disturbance may occur until public water is supplied by MidSouth Energy to residents on Four Oaks Road and Cantrell Court Road. The water lines must be installed according to ADEM specifications.

11. Bond and acreage fee for Increment #1 and Increment #2 must be paid to the ASMC before mining may begin on permit P-3912.

12. The Lamar County Commission has agreed to allow MidSouth Energy Group, LLC a limited access within the required 100 ft. setback. This access is limited to a portion of the SE ¼ of the NE ¼ and NE ¼ of NE ¼ of Section 8 T12S R R14W and is being permitted to allow for the construction of an earthen safety berm, approximately 200 ft. in length. This safety berm will be constructed adjacent to, but outside of the 60 ft. Right of Way of Four Oaks Road. In addition, a portion of a settling basin will be constructed in the same location but will remain a minimum of 80 ft. from the centerline of Four Oaks Road. At this time, The Lamar County Commission has not granted any additional exceptions to the 100 ft. setback along any other portion of Four Oaks Road or any other public county road, which would be affected by the proposed mining operation.

DATE ISSUED: JUNE 3, 2010
EFFECTIVE DATE: JUNE 3, 2010
EXPIRATION DATE: JUNE 2, 2015

/ns

Randall C. Johnson, Director

cc: I & E, Permit File

FINDINGS

PERMIT NO.: P-3912-40-15-S

The ASMC, acting by and through its Director, hereby finds, on the basis of information set forth in the application or from information otherwise available, that --

1. The permit application is complete and accurate and the applicant has complied with all requirements of the Act and the regulatory program.

2. The applicant has demonstrated that reclamation as required by the Act and the regulatory program can be accomplished under the reclamation plan contained in the permit application.

3. The proposed permit area is:

   (a) Not within an area under study or administrative proceedings under a petition, filed pursuant to Chapter 880-X-7 to have an area designated as unsuitable for surface coal mining operations;

   (b) Not within an area designated as unsuitable for mining pursuant to Chapter 880-X-7 or subject to the prohibitions or limitations of Section 880-X-7B.-06 and Section 880-X-7B-.07 of this chapter; or

4. For mining operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Regulatory Authority the documentation required under Section 880-X-8D.07 and Section 880-X-8G-.07 of this chapter.

5. The Regulatory Authority has made an assessment of the probable cumulative impacts of all anticipated coal mining on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.

6. The applicant has demonstrated that any existing structure will comply with Section 880-X-2B-.01, and the applicable performance standards of Chapter 3 or 10.

7. The applicant has paid all reclamation fees from previous and existing operations as required by 30 C.F.R., Subchapter R.

8. The applicant has satisfied the applicable requirements of Subchapter 880-X-8J.

9. The applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural, postmining land use, in accordance with the requirements of 880-X-l0C-.58(4) and 880-X-10D-.52(4).

10. The operation will not affect the continued existence of endangered or threatened species, or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.).

11. The Regulatory Authority has taken into account the effect of the proposed permitting action on properties listed or eligible for listing on the National Register of Historic Places. This finding is supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Regulatory Authority has determined that no additional protection measures are necessary.

12. For a proposed remining operation where the applicant intends to reclaim in accordance with the requirements of Section 880-X-l0C-.56 or 880-X-10D.-49, the site of the operation is a previously mined area as defined in Section 880-X-2A-.06.

l3. Surface coal mining and reclamation operations will not adversely affect a cemetery.

l4. After application approval but prior to issue of permit, ASMC reconsidered its approval, based on the compliance review required by Section 880-X-8K-.10(2)(a) in light of any new information submitted under 880-X-8D-.05(8).

l5. The applicant has submitted the performance bond or other equivalent guarantee required under Chapter 880-X-9 of the ASMC Rules prior to the issuance of the permit.

16. For mining operations where a waiver is granted from the 100' setback from a public road according to 880-X-7B-.07, the interests of the public and affected landowners have been protected.

17. The Regulatory Authority has taken into account the effect of the proposed permitting action on properties listed or eligible for listing on the National Register of Historic Places. A site survey performed by P.E. Lamoreaux & Associates dated December 4, 2006 found no sites potentially eligible for listing on the National Register of Historic Places located on the mine site. The State Historic Preservation Officer (SHPO) concurred with this finding by letter dated January 11, 2007. Some concern was expressed by the AHC for the area surrounding site 1Lr3. That area is not included in the proposed mine area. Any sites located outside of the mine area will not be impacted by the proposed operation. This finding is supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Regulatory Authority has determined that no additional protection measures are necessary. Concerns for unknown resources which might be discovered during mining have been made conditions of the permit.

18. The US Fish and Wildlife Service (FWS) and the Alabama Department of Conservation and Natural Resources (ADCNR) identified several threatened or endangered species, which might occur in the vicinity of the proposed mine site. Yokley Environmental Consulting Service and J.H. Graham, LLC performed site surveys for presence of these species and their habitat within the impact area of the mine. No occurrence of habitat or these species was found. The FWS reviewed the Yokley survey and concurred with its findings by letter dated August 7, 2008.

    The Frecklebelly madtom was identified by the ADCNR as a state species of concern. The nearest known occurrence of this species is 5 miles from the proposed mine site. The Yokley survey characterized the Buttahatchee River both upstream and downstream of the mine site for approximately 3000 meters. The riverbed was described as "sand with occasional small sandstone rock chips and traces of organic matter (leaves and small pieces of wood). This sand based river bed was over one meter thick at all locations." Comments received from Thomas Shepard, a biologist with the Alabama Geological Survey, characterized Frecklebelly madtoms as being "highly intolerant of sedimentation and quickly disappear from shoals that become embedded with fine sediments." Based on the Yokley survey, habitat for the Frecklebelly madtom does not exist in the Buttahatchee River in the vicinity of the mine site.

    The US Army Corps of Engineers (USACE) issued a Nationwide Permit 21 authorization SAM-2009-00572-CHE dated July 27, 2009. This authorization is for impacts to 7260 linear feet of ephemeral streams, 3860 linear feet of intermittent streams, 0.21 acres of wetlands, and 1.92 acres of other waters of the United States. A mitigation plan was approved by the USACE and was submitted to ASMC. This plan has been reviewed and deemed consistent with provisions of the reclamation plan approved in the ASMC permit.

19. The proposed permit area is:

    a. Not within an area under study or administrative proceedings under a petition, filed pursuant to Chapter 880-X-7 to have an area designated as unsuitable for surface coal mining operations.
    b. Not within an area designated as unsuitable for mining pursuant to Chapter 880-X-7 or subject to the prohibitions or limitations of Section 880-X-7B-.06 and Section 880-X-7B.-07 of this chapter.

20. An Informal public conference was held on September 9, 2008 in Jasper, Alabama. Those who attended the conference presented oral and written comments. Written comments were also submitted by the public to ASMC throughout the public comment period. A previous permit application (P3905) submitted by Aldwich, LLC covered some of the same areas included in this application. An informal conference was held on that application on May 2, 2008. That application was subsequently denied due to discrepancies that were not resolved by the applicant. Information submitted by the public on that application has also been considered in reviewing this permit application and will be addressed in these findings. During the course of the permit review the company changed its name to MidSouth Energy Group, LLC.

    In review of an application for a permit or revision, the ASMC distributes various parts of the permit application to the review staff. The review staff includes persons trained in various disciplines such as Biology, Geology, Hydrology, Engineering, Blasting and Subsidence. In addition, input is solicited from external sources including the US Fish and Wildlife Service, US Army Corps of Engineers, Mine Safety and Health Administration, Alabama Historical Commission, Alabama Department of Environmental Management, Alabama Department of Conservation and Natural Resources, and various local and county governments in the locality of the mining operation.

    Transcripts of informal conferences and written comments are distributed to the review staff who consider the comments during the review process.

Description of the Proposed Mining Operation

The proposed Four Oaks Mine is located in Lamar County Alabama. The mine area is located within the Buttahatchee River drainage system. The mining operation involves the removal of coal by area surface mining methods using mobile equipment. The total mine area under this permit is 106 acres. During the review process for this application, considerable acreage that was originally proposed for mining was removed from the permit area.

Citizens expressed concerns regarding legal right to mine on property owned by Weyerhaeuser Company.

The application originally included properties owned by Weyerhaeuser Company as well as other property owners with whom no legal right to mine had been obtained. This included areas known as Buttahatchee Bluffs. These areas have been removed from the permit area and will not be impacted by mining.

Citizens expressed concerns regarding threatened or endangered species, which are found in the Buttahatchee River.

The US Fish and Wildlife Service (FWS) and the Alabama Department of Conservation and Natural Resources (ADCNR) identified several threatened or endangered species, which might occur in the vicinity of the proposed mine, site. Yokley Environmental Consulting Service and J.H. Graham, LLC performed site surveys for presence of these species and their habitat within the impact area of the mine. No occurrence of habitat or these species was found. The FWS reviewed the Yokley survey and concurred with its findings by letter dated August 7, 2008.

The Frecklebelly madtom was identified by the ADCNR as a state species of concern. The nearest known occurrence of this species is 5 miles from the proposed mine site. The Yokley survey characterized the Buttahatchee River both upstream and downstream of the mine site for approximately 3000 meters. The riverbed was described as "sand with occasional small sandstone rock chips and traces of organic matter [leaves and small pieces of wood]. This sand based river bed was over one meter thick at all locations". Comments received from Thomas Shepard, a biologist with the Alabama Geological Survey, characterized Frecklebelly madtoms as being "highly intolerant of sedimentation and quickly disappear from shoals that become embedded with fine sediments." Based on the Yokley survey, suitable habitat for the Frecklebelly madtom does not exist in the Buttahatchee River in the vicinity of the mine site.

Five sedimentation control ponds will be constructed near the mine area to capture run-off from disturbed areas. The ponds are designed to prevent excessive sedimentation of receiving streams. These ponds will be located near the mine area and out of perennial streams. No mine related disturbance will occur closer than 650 feet to the Buttahatchee River. Disturbed areas will be regarded contemporaneously with the mining operation and revegetation will occur during the first available planting season. Additional precautions have been incorporated into the operation and reclamation plan including the application of lime to mine spoils to prevent the possibility of contamination of runoff from acid producing materials. Discharge from sedimentation ponds will be monitored twice monthly under requirements of the NPDES and ASMC permits. Monitoring sites have been established on the Buttahatchee River and Cantrell Creek and will be monitored quarterly to detect any negative changes in water quality.

Citizens expressed concerns regarding potential impacts to Marion County Lake. The mine area is located two miles from Marion County Lake. Given the distance involve, no impacts will occur.

Citizens expressed concerns regarding potential archaeological sites. Several citizens presented information concerning petroglyph sites discovered in nearby areas. A site survey on the proposed mine area was performed by P.E. LaMareaux and Associates. A report of that survey dated December 4, 2006 was submitted with the permit application. The Alabama Historical Commission (AHC) reviewed this report and granted clearance for the operation by letter dated January 11, 2007. Some concern was expressed by the AHC for the area surrounding site 1Lr3. That area is not included in the proposed mine area. Any sites located outside of the mine area will not be impacted by the proposed operation.

Citizens raised concerns that the US Army Corps of Engineers was not consulted on this permit application. The US Army Corps of Engineers (USACE) issued a Nationwide Permit 21 authorization SAM-2009-00572-CHE dated July 27, 2009. This authorization is for impacts to 7260 linear feet of ephemeral streams, 3860 linear feet of intermittent streams, 0.21 acres of wetlands, and 1.92 acres of other waters of the United States. A mitigation plan was approved by the USACE and was submitted to ASMC. This plan has been reviewed and deemed consistent with provisions of the reclamation plan approved in the ASMC permit.

Citizens expressed concerns regarding the potential adverse impact on the public due to coal truck traffic on county roads that are not designed and constructed to handle such traffic. Other concerns relate to possible safety hazards to the public due to mining through a public road or surface mine disturbance within 100 feet of the right-of-way of a public road. Citizens noted that waivers from the Lamar County Commission were not included in the application granting approval to disturb within 100 feet of the public road. The Alabama Surface mining Commission (ASMC) does not regulate truck traffic on public roads. Truck traffic on public roads near the Four Oaks Mine No. 2 is regulated by Lamar County and Marion County.

The permit application does not include a proposal to mine through a public road; however, the application does include a proposal to conduct surface mine disturbance within 100 feet of the right-of-way of Four Oaks Road. Part III-B(5) of the permit application indicates surface mine disturbance is proposed to be conducted up the right-of-way of Four Oaks Road. Safety berms are proposed to be constructed between the mine disturbance and the right-of-way to avoid creating a safety hazard. The Lamar County Commission granted approval for limited access within the 100 ft. setback in the SE¼ of the NE¼ of Section 8, T-12S, R-14W to allow for construction of a safety berm approximately 200 ft. in length. This

safety berm will be constructed adjacent to, but outside the 60 ft. right-of-way of Four Oaks Road to provide for adequate safety between the public road and sedimentation pond 146. According to a letter from the Lamar County Engineer to the ASMC, dated August 31, 2009, "at this time, The Lamar County Commission has not granted any additional exceptions to the 100 ft. setback along any other portion of Four Oaks Road or any other public county road which would be affected by the proposed mining operation." Provided that the required safety berm is constructed and maintained in accordance with the approved plan, adequate safety should be provided.

Citizens raised concerns regarding the potential adverse impact on the community as a result of dust from the mining operation. The Mine Safety and Health Administration (MSHA) regulates dust, including coal dust, associated with the mining operation as it relates to protection of the mineworkers.

The operation plan in the permit application includes provisions for control of dust from haul roads, primary roads and routes of travel in the mine area by periodic application of water, chemical binders and/or other dust suppressants. Provided that these measures are implemented, this should result in effective dust control for transportation facilities. The ASMC does not regulate dust from vehicles on public roads.

Citizens expressed concerns related to noise caused by the mining operation and its potential adverse impact to citizens in the community. The MSHA regulates noise as it relates to protection of the miners; however, the ASMC does not regulate noise.

Several Citizens expressed concerns regarding intermittent and perennial streams within and adjacent to the proposed permit area. Issues of concern include: (1) Failure to identify and designate the Buttahatchee River, Cantrell Mill Creek and the stream that flows from the Cantrell spring to the Buttahatchee River as perennial streams; (2) Failure to identify and designate the drainage course south of Four Oaks road that traverses the southern tract of the permit area as an intermittent stream; (3) Failure to show stream buffer zones for intermittent and perennial streams; and, (4) The proposal to construct two sedimentation ponds in intermittent streams. The approved permit map and maps in the engineering plans show and designate the Buttahatchee River, Cantrell Mill Creek and the stream flowing from the Cantrell spring to the Buttahatchee River as perennial streams. The stream flowing from the Cantrell spring (spring owned by Pam and Keith Cantrell) to the Buttahatchee River is located in the NE/SW, NW/SW, Section 4; the NE/SE, Section 5; all in T-12S, R-14W, Lamar County.

The drainage courses south of Four Oaks road that traverse the southern tract of the permit area are not intermittent streams as defined by ASMC regulations. ASMC rule 880-X-2A-

.06 defines intermittent stream as "--a stream or reach of a stream that is below the local water table for at least some part of the year, and obtains its flow from both surface runoff and groundwater discharge, and which drains a watershed of at least one square mile or greater." One square mile is 640 acres. The "Natural Drainage Course" shown south of Four Oaks road draining through Increment No. 1 to proposed sedimentation pond 146 is actually disrupted by previous surface mining and a portion of the drainage actually drains to the location of proposed sedimentation pond 147. The drainage areas for ponds 146 and 147 are approximately 49 acres and 173 acres, respectively; therefore, these two drainage courses are not intermittent streams, by ASMC definition, because neither have a drainage area of 640 acres or greater. A stream buffer zone is not shown for these two drainage courses because they are not intermittent streams.

The proposed permit boundary and permit area have changed significantly to avoid disturbance of the perennial stream extending from the Cantrell spring to the Buttahatchee River and to delete the Weyerhaeuser property from the proposed permit. As a result, the Buttahatchee River, Cantrell Mill Creek and the unnamed stream extending from the Cantrell spring to the river are not within, or immediately adjacent to the permit; therefore, it is not required that a stream buffer zone be shown for these three perennial streams. The closest point from any of these streams to the permit boundary is approximately 275 ft. (Pond 147 upstream from Cantrell Mill Creek).

Sedimentation Ponds 146 and 147 will not be constructed in intermittent streams because these drainage courses do not meet the ASMC definition of intermittent streams. Sedimentation pond 003 has been relocated out of the unnamed perennial stream north of the permit boundary to avoid disturbance of that stream. Sedimentation ponds 002 and 005 are not proposed in intermittent streams because their drainage areas are small --15 acres and 36 acres, respectively.

One Citizen expressed concerns regarding design of a drainage control plan based on out-of-date or inaccurate topographic maps. Previous surface mining activities have altered the topology of areas disturbed by previous mining causing contour lines in those areas to no longer accurately depict the topology and drainage features. The watershed map in Part III-B(2)(a) has been revised to include flow arrows to show the "Flow Direction on Previously Mined Area." The watershed map should now accurately show the drainage boundaries and drainage patterns for the watersheds of the proposed sedimentation ponds to ensure an effective drainage control plan.

One Citizen raised questions concerning the effect on the drainage control plan due to the necessity to delete the Weyerhaeuser property from the proposed permit area. The original permit application proposed to mine Weyerhaeuser property and to construct sedimentation ponds on this property. The Weyerhaeuser property has been deleted from the proposed permit area and proposed sedimentation ponds 002 and 003 have been relocated upstream. Relocation of proposed sedimentation ponds 002 and 003 resulted in decreasing the drainage area for these ponds from approximately 31 acres and 91 acres, respectively, to approximately 15 acres and 25 acres, respectively.

One Citizen expressed a concern that two of the five proposed sedimentation ponds are located outside the permit area and would not be controlling sediment discharge from the permit area. This reference is to sedimentation ponds 001 and 005. Sedimentation pond 001 has been replaced with proposed sedimentation pond 146. Proposed sedimentation ponds 005 and 146, including the connecting drain ways from the mine area to those two ponds, is part of the permit area; therefore, sediment discharge from the permit area will be controlled at these two locations.

One Citizen questioned who is responsible for sedimentation ponds in 15 or 20 years when the ponds may fail. Sedimentation ponds 005, 146 and 147 are proposed as permanent impoundments. All other sedimentation ponds (002 and 003) are proposed as temporary impoundments. The permittee is responsible for all sedimentation ponds and permanent impoundments until a Phase III bond release has been granted for the impoundments. After Phase III bond release, the landowner is responsible for the permanent impoundments and for the sound future maintenance of these permanent impoundments. Prior to Phase III bond release, the landowner must sign a letter that he or she will be responsible for the sound future maintenance of the permanent impoundments.

One Citizen expressed a concern regarding the potential impact of non-point source pollution resulting from mining. Sedimentation ponds must be maintained until the disturbed area has been reclaimed, stabilized and until such time that drainage from the reclaimed area meets applicable effluent limitation requirements without treatment. At that time, there should be no significant adverse impact to off-site areas as a result of non-point sediment loads from reclaimed areas.

Primary roads and ancillary roads must be designed, constructed, maintained and removed in a manner to minimize non-point source pollution. Best management practices (BMP's) are used in construction, use, maintenance and removal of roads to minimize erosion; provide stability; minimize off-site siltation; minimize water pollution; and provide dust control.

BMP's to be used to minimize off-site impacts include, but are not limited to: (1) installation of culverts; (2) vegetation and stabilization of roadway slopes; (3) surfacing of roadway with durable non-toxic, non-acid forming material; (4) construction and stabilization of roadway ditches; (5) dust control by periodic application of water, chemical binders and/or other dust suppressants; and, (6) sediment control by use of silt fences, rock check dams, hay bale berms, etc. in strategic locations to minimize off-site siltation. The specifics of the BMP plan for primary and ancillary roads are included in Part III-B(5)(b) of the approved permit application and in the approved design plans for proposed Primary Roads 1P and 2P. Provided that these measures are implemented in accordance with the approved permit, there should be no significant adverse impact from non-point source pollution as a result of the mining operation.

One Citizen indicated that the "monitoring well abandonment procedures contained within the permit application are not in compliance with the Alabama Department of Environmental Management plugging and abandonment requirements." ADEM plugging and abandonment requirements are not applicable to monitoring wells installed, monitored and abandoned under ASMC requirements. Abandonment of wells under ADEM rule 335-7-5-.14 is applicable to wells used for a public water system. The description and cross-section provided in the approved ASMC permit of measures to be used to seal monitoring wells is in compliance with applicable ASMC requirements because it will prevent acid or other toxic drainage from entering ground or surface waters; minimize disturbance to the prevailing hydrologic balance; and ensure the safety of people, livestock, fish and wildlife, and machinery.

Citizens had concerns about the formation of acid mine drainage at this site. The acid formation process requires several steps in order to produce acid mine drainage. Pyrite (FeS_2) or other available sulfur must be introduced to oxygen and water in order for the process to occur. Once the sulfur is in contact with water and oxygen, sulfates and hydrogen ions are released, and hydrogen ions result in acidity. As pH is a negative log of the hydrogen ion concentration, the higher the hydrogen ion concentration, the lower the pH. In order to counteract the acid forming process, an alkaline addition can be used to neutralize the hydrogen ions.

The overburden analysis of eight overburden drill holes revealed very little neutralization potential in the stratum and only a few intervals of high sulfur values. Within this mine site exists the Coker Formation, a cretaceous interval that consists of sands and gravels. This formation is shown to have no neutralization potential, and may contain pyrites and other sulfur rich minerals. There also exists a shale interval that has high sulfur values and low neutralization potential. Because of these two intervals showing a potential to produce acidity, a special handling plan has been included in the permit application.

This handling plan states that the cretaceous sediments will be treated with 108 tons per acre of agricultural lime prior to being pushed into the previous open pit, therefore placing the material with alkaline addition on the pit floor. This will prevent the formation of low pH seeps. Additionally once groundwater has risen and been restored, the cretaceous sediments on the pit floor should not be in contact with oxygen, removing one of the catalysts for low pH seeps. Additionally it is proposed that five tons of limestone chips per acre be applied during the revegetation to add alkalinity to precipitation as it infiltrates into groundwater through the spoil.

Several citizens had concerns about their water, either by water loss, water replacement or water quality. The water source in this area at the time of the permit application is from either springs from the cretaceous formation, or wells that are most likely drilled into the lower Pottsville Formation (a sandstone formation of Pennsylvanian age). Some of the recharge area for the springs may be disturbed, thus interrupting water availability to the springs. While most likely the wells in the area will not be affected, because of the high usage of the springs Mid-South Energy Group, LLC has obtained a Water Supply Permit from the Alabama Department of Environmental Management (ADEM). This permit is for the installation of 30,100 linear feet of a 6-inch water main, 14,000 linear feet of a 3-inch water main and all necessary appurtenances. The ADEM permit number is 09-074. This installation will supply all local residences with municipal water and is capable of supporting community growth. The ASMC permit will have a condition placed upon it that no mining activity will begin until the water mains are installed and working.

A citizen had a comment about surface water baseline data regarding the distance to the downstream site as well as Cantrell Mill Creek not being sampled. During the review process for this permit it was noted that there was insufficient surface water sample sites, and that the downstream site on the Buttahatchee River was 3 ½ miles away from the mine site. As such, surface water sites were added both upstream and downstream of the mine site on Cantrell Mill Creek. Baseline data was submitted during the review process.The downstream site on the Buttahatchee River was moved closer, above the first agricultural intake pump.

A citizen had a comment about the number of monitoring wells. There are currently two monitoring wells at the site. One monitors the interval above the Black Creek Seam, and the other below the Black Creek Seam. It is true that three wells, drilled into the same interval and cased to the same specifications are needed to determine groundwater flow direction. Groundwater movement is influenced hydraulic gradient as well as by the dip of the strata, local topography, on-site or adjacent disturbance, the presence or absence of water bearing features such as faults or fracture zones and the permeability of the strata over and underlying the coal seams. Also, according to Plate 1 of the Water-Resources Investigations Report 88-4120 by the U.S. Geological Survey and ADEM titled Geohydrology and Susceptibility of Major Aquifers to Surface Contamination in Alabama; Area 3, the potentiometric contour of the Tuscaloosa aquifer and the Pottsville aquifer shows groundwater movement southeast,

toward the Buttahatchee River. Based on this information, as well as the small limit of recharge due to the topography in the area, three wells were not considered necessary to show groundwater flow direction.

With regards to protection of aquifers, underlying the Black Creek coal within the permit area is either a layer of clay or shale. Because of their low permeability, neither clay nor shale will allow water to migrate downward very easily, lessening the potential for contamination to the Pottsville aquifer at this site.

A citizen expressed concerns about the water supply for irrigated land and a loss of the water source due to sedimentation and low pH. Sediment basins are designed to retain sediment to a level in compliance with the ADEM permit. Also, timely regarding and liming of revegetation will minimize exposure of unweathered overburden and result in conditions, which could result in low quality surface water or groundwater discharge. It was stated that the soils on the Spruell Farm averages a pH of 6.0 s.u. Baseline data from the Buttahatchee River shows an average pH of the water to be 7.0 s.u., which is 10 times greater than a pH of 6.0 s.u. Discharges from all sediment basins are monitored for pH, as well as other parameters, and the pH of discharge is not to go below 6.0 s.u. The alkaline addition to the cretaceous sediments on the pit floor, as well as the lime chips and timely revegetation should also help prevent low pH contribution to the river.

A citizen was concerned that water with a of pH value of 2.0 s.u. would be discharged into Cantrell Creek. With the above-mentioned alkaline addition and the sediment basins built for retention and best management practices, this should not occur.

A citizen was concerned that the washing of coal could lead to a low pH. There will not be a coal washing facility at this site.

One citizen was concerned with Part IV of the reclamation plan landuse classification of "undeveloped/no current use" regarding two residences within the permit area. Part IV-1 provides a description of the post mining landuses. One hundred and two (102) acres are undeveloped/no current use. Four (4) acres are permanent water impoundments, Fish and Wildlife habitat. The overall permit boundary is one hundred and six (106) acres. The permit boundaries have been revised; no residences are located within the permit area.

One citizen expressed concern regarding pre and post mine slope percentages. The average pre-mining slope is 19%; the final average post-mining slope will not exceed the pre-mining slope. The final average highwall slope will not exceed the steepest pre-mining slope, 30%.

Citizens expressed concerns about lack of vegetation on older mine sites in the area. Application is made and approved for a variance on salvaging native soils on the entire permit. This differs from our normal policy in that the Pikeville sandy loam soil unit is approved for substitution with select overburden. This soil unit is classified as suitable for agricultural use and such soils are usually exempt from substitution. However in this case, it is approved for substitution. The information provided by the applicant, and two trips to the site by this reviewer have shown that the native soils are extremely gravelly, highly erodable and grade rapidly into the parent material, unconsolidated marine sediments of the Cretaceous Coker formation. Salvaging thin topsoil is difficult and the subsoils of this material are known to perform poorly in reclamation.

Several sites where the native vegetation was disturbed were examined and it was always the case that, where the disturbance was on slopes, heavy erosion and a largely sterile gravel surface was produced. A fairly large area of pre-SMCRA mining, adjacent on the west to the proposed mine site, was examined. This area appears to have been reclaimed at some time in the past with a plating of native "soil". This has resulted in an area with a scattering of stunted, chloritic pines and a rough, eroded gravelly surface.

The applicant has made a good case that a select overburden material will constitute the best available material for reclamation of the site. Also, the select overburden material, being less erodable and containing less potential for suspended solids to reach the Buttahatchee River, is environmentally superior.

21. CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT

Permit Number P-3912
Mid South Energy Group, LLC

NPDES AL0077801
Four Oaks Mine No. 2

As required under Federal Public Law 95-87, Section 510(b)(3), the Alabama Surface Mining Commission (ASMC) must find in writing the following proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area. The applicant must submit a determination of probable hydrologic consequences of mining and reclamation operations in Part II.H of the permit application for areas both on and off the mine site. This determination will allow the ASMC to assess probable cumulative impacts of all anticipated mining activities on the surface and ground water hydrology of the permit and adjacent areas as stated in Federal Public Law 95-87, Section 507(b)(11) and ASMC Rule 880-X-8E-.06 (1)(g). The following assessment and findings are intended to fulfill the above.

I. GENERAL INFORMATION

The proposed Mid South Energy Group, LLC (P-3912) Four Oaks Mine No. 2 is for a surface coal mining operation encompassing approximately 106 acres in Lamar County. The proposed mine site is located in part of Sections 4, 5, 8 and 9, Township 12 South, Range 14 West as see3n from the 1967 Henson Springs, Alabama U.S.G.S. Quadrangle.

The mine site is bound on the north by an unnamed tributary to the Buttahatchee River, to the east by undeveloped land, to the south by Cantrell Mill Creek and to the west by previous pre-SMCRA mining. Four Oaks Road splits the permit area approximately in half, running in a northeast to southwest direction.

Historical Coal Mines

There are no historical coalmines in the area of this permit. There does exist some pre-SMCRA mining, however there is no record on file of activities performed. On August 9, 2006 two ASMC Inspectors, on the recommendation of some local Beaverton residents, found some disturbed area that appeared to have had some coal mining activity. Haley Bros. Coal Inc. conducted this activity around the last quarter of 2005. The area has been reclaimed.

II. CUMULATIVE IMPACT AREA (CIA)

The Cumulative Impact Area (CIA) is that area, including the permit area, within which impacts resulting from the proposed operation may interact with the

hydrologic impacts of all other past, current and anticipated coal mining on the surface and groundwater systems.

The CIA for surface water for Permit P-3912 has been defined as the proposed permit area including an unnamed tributary to the Buttahatchee River, directly north of the permit area, and also including Cantrell Mill Creek and including an approximate 3000 foot section of the Buttahatchee River to just above an agricultural intake pump. See Map No. 1 for the surface water CIA.

The CIA for groundwater for this permit is limited to the permit area itself and the approximate recharge area of the Coker Formation. The CIA has been selected based upon the Department's assessment of the possible hydrologic impacts, which may occur as a result of mining operations. The subsurface hydrologic components considered in this assessment include all significant water-bearing units in, and within the vicinity of, the proposed permit. No cumulative impacts to groundwater are expected due to a viable aquifer would most likely be located in a sandstone unit that is located below the Black Creek Coal Seam of the Pottsville Formation and the lack of a widespread, regional aquifer system. The localized perched aquifer that exists at the Coker-Pottsville contact that some of the local residences use as a domestic water source has also been taken into consideration for the ground water CIA. See Map No. 1.

A. Active or Proposed Mines

There are no active or proposed mines within the area of this permit.

B. Geologic/Hydrogeologic Information

i. Geology

The proposed P-3912 permit area is located in the Fall Line Hills District in the Coastal Plain province of Alabama. The cretaceous sediments of the Coker Formation overlie the Pennsylvanian Age Pottsville Formation in this area. The Pottsville Formation consists of alternating beds of gray sandstone, conglomerate, siltstone and shale with beds of coal and underclay (Hydrologic Assessment, Eastern Coal province Area 23, Alabama USGS Open File Report 80-683). The Coker formation unconformable overlies the Pottsville Formation and consists of unconsolidated sand, gravel and clay with prominent sand and gravel beds at or near the base of the formation. According to Report 80-683, most surface coal mining that requires removal of the Coker Formation has occurred where the thickness of the Coker is less than 100 feet. The strata generally trend northwest and dip southwest 20 to 300 feet per mile.

The target seam is the Black Creek Seam, which is the lowest seam in the Black Creek Coal Group according to "Depositional Settings of the Pottsville Formation in the Black Warrior Basin". The Black Creek Seam has been extensively mined along its outcrop areas in other phisiographic provinces of Alabama, and occurs between approximately 426 and 463 ft. msl (mean sea level) within the permit area. There are no known faults within or adjacent to the permit area.

ii. Potentially Acid- and Toxic-Forming Materials

Overburden analysis was conducted on eight overburden samples within and adjacent to the permit area. The analysis was run to determine the potential for acid- and toxic-forming properties. Potentially acid- and toxic-forming materials are those that exhibit a pH of less than 4.0 s.u. or a deficiency in calcium carbonate equivalent of at least 5.0 tons per 1,000 tons of material (T/KT). Samples were collected every 5 feet or change in lithology and analyzed for pH (paste), total sulfur, potential acidity, neutralization potential and fizz rating.

C. Surface Water

The proposed permit area is located in the Buttahatchee River Basin and is drained by Cantrell Mill Creek, an unnamed tributary to the Buttahatchee River, and the Buttahatchee River. The mine site is located in sub-watershed 020 of hydrologic unit code 03160103 as defined by the USDA Soil Conservation Service (as of 2008). The Alabama Department of Environmental Management as 'Fish and Wildlife' classifies the use of the Buttahatchee River. One existing and one proposed agricultural irrigation supply pumps are located in the Buttahatchee River. The existing pump pumps 2700 gpm (gallons per minute) 60 days/24 hours, and the proposed pump will pump 900 gpm 6 days a week.

To characterize the existing quality and quantity of water within the above-mentioned streams, baseline data was obtained and submitted in the permit application. Sample data was submitted from four sample sites. Sample Site AFOSW-1 is located downstream in the Buttahatchee River. It was used to collect representative baseline, but has been replaced by AFOSW-5 closer to actual disturbance. In the event access is denied to AFOSW-5, sampling will re-commence at site AFOSW-1. Sample site AFOSW-2 is located upstream from all disturbances on the Buttahatchee River. Sample site AFOSW-3 is located upstream on Cantrell Mill Creek, and site AFOSW-4 is located downstream on Cantrell Mill Creek. All sites will be monitored until final bond release of that permit is obtained. Baseline data from current monitoring is show in Table 1.

Post-Mining water quality and quantity estimates are based on several factors:

1. Baseline surface water quality
2. Estimated impact during mining
3. Size of the permit area compared to the impacted watershed
4. Amount of previous mining within the watershed

Table 2 at the end of this assessment shows the post mining water quality projections.

D. Ground Water

The geologic unit, which underlies this region, is of the Pottsville Formation, and is overlain by the Coker Formation. The Coker Formation outcrops within some of the permit area and typically consists of unconsolidated and weathered sands, clays and pebbles. The unconsolidated nature of the sediments results in a high yield rate of groundwater in Coker formation wells. This also leads to the springs that are utilized in this area. The primary source of recharge is rainfall. Because the Pottsville strata has a much lower hydraulic conductivity than Coker strata, groundwater in the Coker strata sits upon the Pottsville strata at the Cretaceous-Pottsville contact. This will result in groundwater in the Coker formation existing under perched water-table conditions.

Groundwater movement in the Warrior Basin is generally from areas of higher elevation, along bedding planes, toward stream channels. Where the groundwater level intersects the stream channels, groundwater discharges into the stream and contributes to surface runoff as baseflow. Groundwater within the proposed Four Oaks Mine No. 2 exists in the Pottsville Formation strata below the Blue Creek Coal Seam as well as in the Coker Formation.

Domestic Wells

A well inventory revealed there are 16 residences within a ½ mile radius of the permit area. Of the 16 residences, 10 utilize local groundwater from springs as their only domestic source, 4 residences utilize local groundwater from wells as their only domestic source, one resident was not at home during several attempts to contact them, and one building was not a residence but a temporary hunting club. In addition to local groundwater uses, two pumps are located in the Buttahatchee River used for agricultural irrigation.

Company Installed Wells

To characterize existing groundwater conditions at the site, Mid South Energy Group, LLC installed two monitoring wells within or adjacent to the proposed area. Monitoring well AFOMW-1 is located southwest of the

permit area, adjacent to Four Oaks Road. It is drilled to a depth of 50 feet, into sandy shale. It is cased to directly below the shale-sandstone contact and open hole the remainder. The water level averages 38.79 feet below the surface. This well will monitor the characteristics of the aquifer underlying the Black Creek Coal Seam.

Monitoring well AFOMW-2 is drilled to a depth of approximately 60 feet. It is cased into the Pottsville sandstone, well below the Pottsville-Coker contact. The water depth averages 33.60 feet below the surface. This well will monitor the characteristics of the aquifer overlying the Black Creek Coal Seam. A summary of baseline ground water conditions is in Table 3.

There are no known wellhead protection zones or public water supply wells in or within 1,000 feet of the proposed permit area.

E. Coal Processing Waste

Coal processing waste (gob and slurry) will not be generated or disposed of at the site.

F. Material Damages

With respect to the CHIA, material damage to the hydrologic balance means the changes to the hydrologic balance caused by surface mining and reclamation operations to the extent that these changes would significantly affect present and potential uses as designated by the regulatory authority. This includes the hydrologic impact that results from the cumulation of flows from all coal mining sites in a cumulative impact area. Examples of material damage are: permanent destruction of a major regional aquifer; temporary contamination of an aquifer in use that cannot be mitigated; and solute contributions to streams above receiving stream standards.

A CHIA is based on the best currently available data and is a prediction of mining-related impacts to the hydrologic balance. Permittees (and permit applicants) are required to monitor water quality and quantity. Exceeding material damage thresholds might also cause significant reduction of the capability of an area to support aquatic life, livestock and wildlife communities.

III. FINDINGS

Based on the information presented above, the following findings have been made relative to the proposed permit area.

A. Historical Coal Mines

With regard to the historical surface mines in, and within the vicinity of, the proposed site, the possible cumulative effect of the previous mining along with the proposed operations on surface and ground water quality/quantity, there are no historical coal mines within this area of the watershed, so there is no cumulative effect. Any future mining operations would be assessed along with this current permit. This is shown in Map 2, Watershed delineation.

B. Potentially Acid- and Toxic-Forming Materials

Laboratory analyses of the bedrock overlying, and immediately below the Black Creek Seam show that the overburden at the Four Oaks Mine No. 2 contains 290 excess tons/acre of neutralization potential; a neutralization potential of +2.76, and an acid-base account of –0.8656 (tons $CaCO_3$/1000 tons overburden). It should be noted that an acid base account is not a water quality prediction tool, but instead is used to support the ability of vegetation to be established and supported. According to the "Coal Mine Drainage Prediction and Pollution Prevention in Pennsylvania" publication by the Pennsylvania Department of Environmental Protection, excess neutralization potential most likely produces alkaline drainage. However, several intervals in the drill logs showed potential to be acid forming with regards to elevated sulfur and deficient neutralization potential. In order to ensure the inability of acid forming materials to produce acid mine drainage, the cretaceous sediments will be treated with 108 tons/acre of agricultural lime prior to pushing it into the previous open pit. This will bring the acid-base account from an average of –0.8656 to a +15 in order to prevent low pH seeps. In addition 5 tons of limestone chips per acre will be applied during the revegetation to help neutralize any potentially low pH overburden. This handling plan is discussed in the Operations plan of the permit application.

C. Surface Water

Laboratory analyses of the samples collected from the Buttahatchee River and Cantrell Mill Creek show no impacts from mining, as there is no mining in this area of the watershed. According to the Alabama Department of Environmental Management the receiving streams' use classification is 'Fish and Wildlife'.

Water quality at Four Oaks Mine No. 2 shows neutral to alkaline pH, low iron, low manganese and low suspended solids, varying on the discharge at the time of sample.

Changes in the quantity and quality of the waters in the streams draining the site are expected to be minimal due to the proposed mining activities.

During mining, runoff from the disturbed areas will be diverted into sediment basins that are designed to retain all settleable solids, skim and retain all floating solids, and provide adequate detention volume and time to minimize the contribution of suspended solids and dissolved solids into the receiving streams. Effluent from the sediment basins will be monitored by the permittee in accordance with National Pollution Discharge Elimination System (NPDES) permit requirements issued by the Alabama Department of Environmental Management. The effluent will be chemically treated, if necessary, in accordance with the NPDES permit. The basins will be monitored quarterly through final bond release in order to characterize and document any effects the mining may have on the surface-water hydrologic balance.

Once mining has begun, the applicant will continue to sample and monitor downstream and upstream on the Buttahatchee River as well as downstream and upstream on Cantrell Mill Creek. These sites will be used to characterize and document any effects the mining may have on the surface-water hydrologic balance.

D. Ground Water

Laboratory analyses of samples collected from AFOMW-1, which will monitor the characteristics of the aquifer underlying the Black Creek Coal Seam, reveal the ground water to be slightly acidic. This well shows very high iron values and elevated manganese. As noted earlier wells in the Pottsville formation are typically high in iron. Laboratory analyses of samples collected from AFOMW-2, which will monitor characteristics of the aquifer overlying the Black Creek Coal Seam, reveal the ground water to also be slightly acidic. The iron concentration for this aquifer is considerably less than with well AFOMW-1, and manganese levels are not elevated. For a summary of the baseline data collected from the bedrock wells, please refer to Table 3 at the end of this assessment.

The proposed operations are not expected to have a permanent adverse impact on the overall quality of the ground water at the site or surroundings. No long-term impact is anticipated to the ground water quality for the aquifer below the Black Creek seam due to the dip of the strata. The water within the bedrock strata is generally mineralized resulting in marginal quality, and show indications of coal related impact.

As discussed previously, the bedrock strata that will be excavated during the mining operations are predominantly non-acid and non-toxic. Improved mining and management practices/techniques and contemporaneous reclamation should result in less water quality issues as compared to the historical mining. Should any increase in mineralization occur in the ground water as a result of the proposed activities, it is anticipated the levels will diminish and return to pre-mining concentrations

once mining and reclamation activities are complete. Ground water will be further protected by properly abandoning and sealing all drill holes completed at the site (with the exception of blast holes) that will not be used for monitoring purposes. With regard to the availability of ground water after mining and reclamation is complete as compared to existing quantities, the backfilled spoil material will have a greater recharge capacity as compared to the undisturbed strata.

IV. CONCLUSION

The assessment of probable cumulative impacts of the Mid South Energy Group, LLC Four Oaks Mine No. 2 (P-3912) finds the proposed operations have been designed to prevent material damage to the hydrologic balance outside the proposed permit area. Also, as this is the only permit within this part of the Buttahatchee Watershed, and as such there is no cumulative effect of surface coal mining activities.

Table 1
Ranges/Averages of Surface-Water Quality/Quantity
Stream Points
P-3912

Parameter	AFOSW-1 ds on Buttahatchee	AFOSW-2 us on Buttahatchee	AFOSW-3 us on Cantrell Mill	AFOSW-4 ds on Cantrell Mill
Discharge Rate (cfs)	3.68 – 5419 (1160.2)	11.5 - 260 (100.9)	0.03 – 0.06 (0.05)	0.72 - 713 (2.25)
Acidity (mg/L)	4 - 8 (6.0)	2 - 4 (3.2)	4 - 6 (4.4)	4 - 6 (5.5)
Alkalinity (mg/L)	2 - 8 (4.6)	4 - 8 (7.2)	2 (2)	4 - 6 (4.5)
Specific Conductance (u-mhos/cm)	27 - 42 (34.9)	41 - 51 (45.5)	27 - 37 (29.3)	32 - 73 (44.4)
Total Iron (mg/L)	0.7 – 4.96 (1.53)	0.61 – 0.74 (0.66	0.2 – 0.6 (0.44)	0.92 – 2.4 (1.61)
Total Manganese (mg/L)	0.03 – 0.24 (0.11)	0.1 – 0.31 (0.16)	0.01 – 0.1 (0.04)	0.2 – 0.41 (0.29)
pH (s.u.)	6.37 – 7.17 (6.51)	6.9 – 7.97 (7.25)	5.43 – 7.49 (6.65)	5.19 – 6.76 (5.84)
Sulfates* (mg/L)	0.01 - 5 (1.58)	0.01 - 1 (0.34)	0.01 (0.01)	3 - 8 (5.5)
TSS (mg/L)	6 - 159 (33.7)	1 - 5 (3.2)	1 - 7 (5)	2 - 11 (8.3)

Average values are set in parentheses (with the exception of pH).
Averages calculated as geometric means.
us = upstream
ds = downstream
* Sulfates shown as 0.01 mg/L were reported as <1.0 mg/L

Table 2
Post Mining Water Quality Estimates for Surface Water (Average)
P-3912

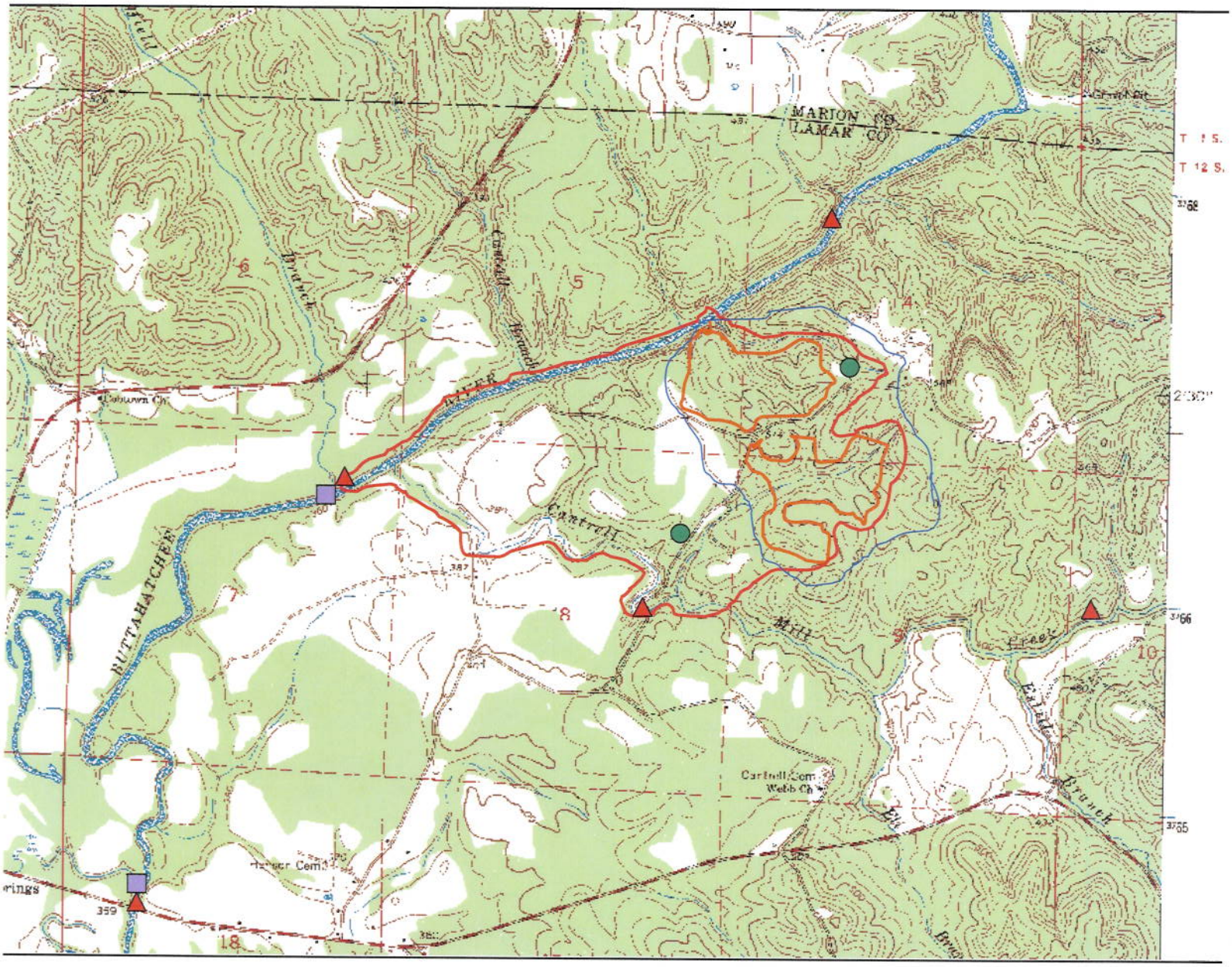
Parameter	AFOSW-1
pH (S. U.)	6.54
Total Suspended Solids (mg/L)	18.1
Total Iron (mg/L)	1.31
Total Manganese (mg/L)	0.086
Specific Conductance (u-mhos/cm)	34
Sulfates (mg/L)	1.3

Table 3
Ground Water Baseline Data
P-3912

Parameter	AFOMW-1	AFOMW-2
Water Depth (feet below surface)	37.52 – 40.26 (37.12)	22.08 – 25.2 (23.6)
Acidity (mg/L)	74 - 94 (85.7)	26 - 38 (37.3)
Alkalinity (mg/L)	20 - 32 (26.3)	1 - 4 (2.3)
Field pH (S. U.)	5.43 – 5.72 (5.62)	4.61 – 5.65 (5.47)
Total Iron (mg/L)	3.29 – 198.75 (62.84)	0.1 – 1.54 (0.60)
Total Manganese (mg/L)	1.42 – 3.95 (2.33)	0.01 – 0.08 (0.05)
Specific Conductivity 25 ^{0}C (μmhos/cm)	104 - 115 (111)	27 - 51 (37.6)
Sulfates* (mg/L)	10 - 16 (13.9)	0.01 - 6 (2.50)

Average values are set in parentheses (with the exception of pH).
Averages calculated as geometric mean.
* Sulfates shown as 0.01 mg/L were reported as <1.0 mg/L

Mid South Energy Group, LLC.
Map No. 1
P-3912



Approximate Permit Boundary

Surface Water CIA

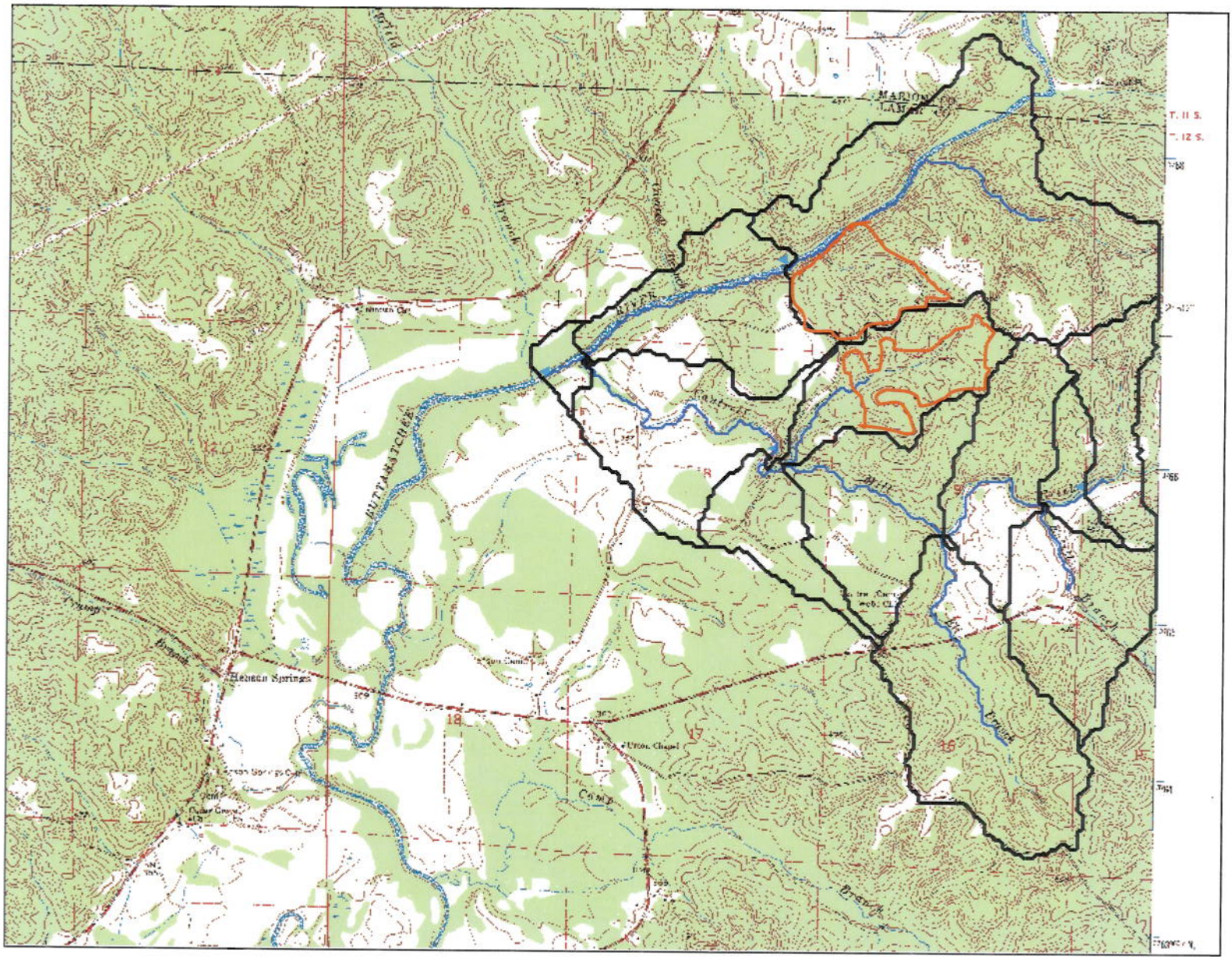
Ground Water CIA

Agricultural Pump Site

Ground Water Monitoring Sites

Surface Water Monitoring Sites

Map No. 2
P-3912
Sub-Watersheds Surrounding Permit Area



Sub watershed delineation

Approximate Permit Boundary

Stream Segments

BASED ON THESE FINDINGS, I RECOMMEND THAT THIS PERMIT BE ISSUED.

DATE: June 3, 2010

Mark Woodley

Mark Woodley, Permit Manager